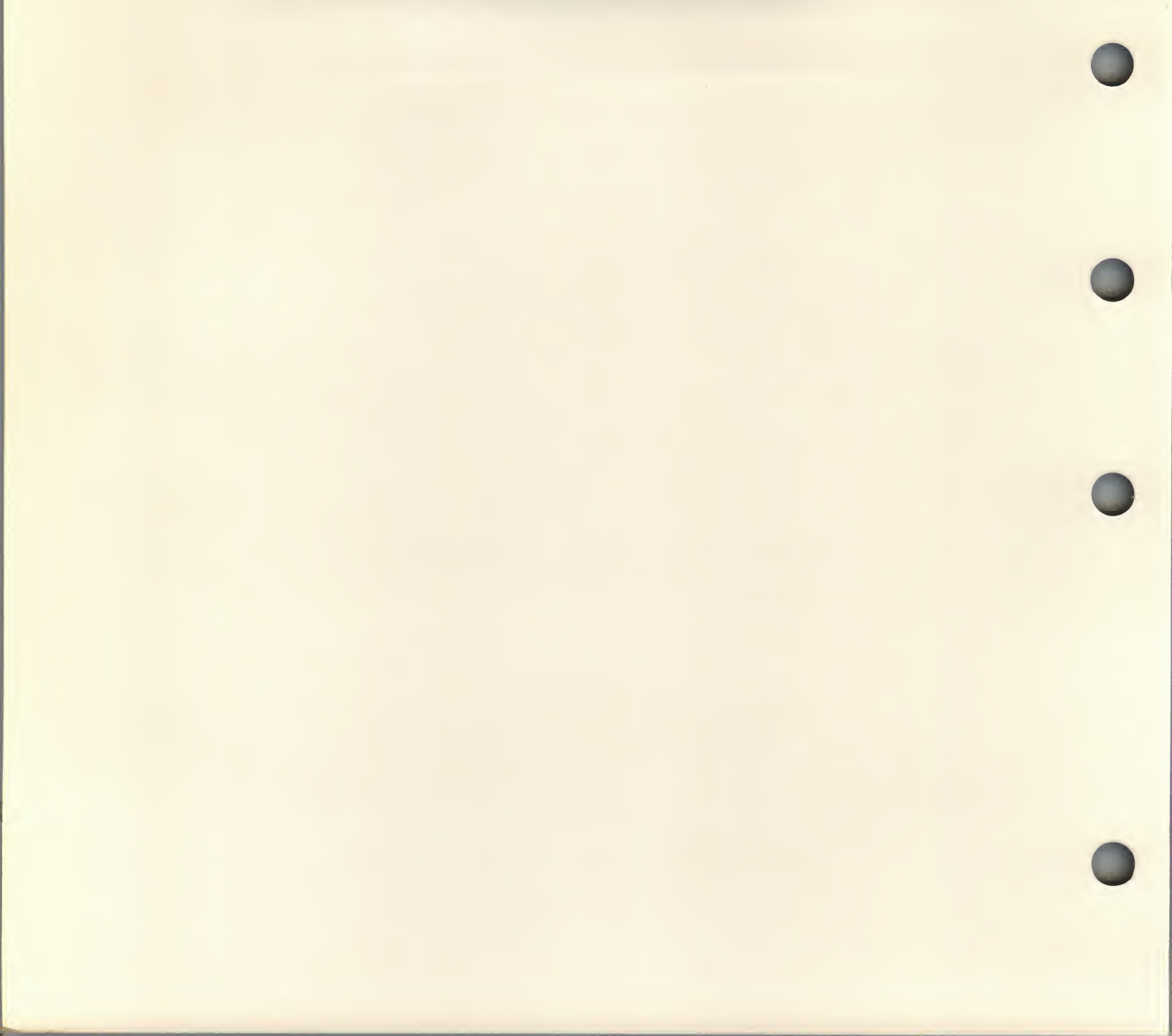


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software



RSTS/E Maintenance Notebook

Order Number: AA-L997E-TC

August 1990

This notebook is a working document that contains published articles on software problems, programming notes, documentation corrections, and optional feature patches. System Managers should keep this document current by incorporating articles published each month in the *RSTS/E Software Dispatch*.

Operating System and Version: RSTS/E Version 10.0

Software Version: RSTS/E Version 10.0

Digital Equipment Corporation

August 1990

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Preface

The *RSTS/E Maintenance Notebook* is a guide for documentation corrections, published software problems and solutions, and programming notes. Subordinate software information is also included. The *RSTS/E Software Dispatch Review* and the *RSTS/E Software Dispatch* are designed so that their articles may be merged into the Maintenance Notebook.

The *RSTS/E Software Dispatch Review* contains articles published for optional layered software supported on RSTS/E V10.0. In general, this is a composite of all optional layered software articles previously published for RSTS/E that still apply to the product when run on RSTS/E V10.0.

The *RSTS/E Software Dispatch* contains articles for RSTS/E and its layered software. It is published monthly and distributed to customers who have purchased a software service contract from Digital. (Contact your local Digital office for more information on how to obtain a software service contract if you do not already have one.)

Each month, take apart the *RSTS/E Software Dispatch* and merge the new articles by sequence number into your maintenance notebook.

All published articles are summarized in the Cumulative Index at the end of this notebook. This index is updated as necessary in the *RSTS/E Software Dispatch*.

1 Using the RSTS/E V10.0 Maintenance Notebook

When you receive the *RSTS/E Software Dispatch*, take it apart and merge the new articles by sequence number into your notebook. If an article replaces an existing article, discard the replaced article. Each article addresses a single topic; its title gives the symptom or a one-line problem description and appears at the top of each page. For example:

Seq. No. 4.1.4 F

Default to NOEXTEND Mode — BASIC-PLUS Feature Patch

System components and subcomponents are listed in Section 2. The list is updated periodically as products become available or obsolete. Articles for each subcomponent are assigned a sequencing number which uniquely identifies the article within that component and subcomponent category. As each new article is published for a subcomponent, it is assigned the next higher sequence number. The entire number is defined as the *component.subcomponent.issue* number (for example, 4.1.4 shown in the upper right corner of the sample heading). Replacement articles are identified as such.

Each article's sequence number is followed by a letter which identifies the type of article as follows:

- **M = Mandatory**

These articles describe problems corrected by a replacement module. In some cases, these articles also include a patching procedure you can follow to correct a problem. You are required to install replacement modules or apply patches described in a "M" article unless told otherwise.

- **F = Feature**

Feature articles include patches that extend or configure nonstandard capabilities into the product. These functions are treated as a supported part of the product for the duration of the current release.

- **R = Restriction**

These articles discuss areas that will not be patched in the current release because they require major modifications or because they are not consistent with the design of the product. Restrictions, except those described as permanent, are reviewed and modified when possible as part of the normal release cycle.

- **N = Note**

Articles designated as "N" provide explanatory information that supplements the documentation set and provides more detailed information about a program or package. They also provide procedural information to make it easier to use a program or package.

Page 1 of 1

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2 Component.Subcomponent Assignments

The component.subcomponent numbers outlined below appear on articles to be filed following the Cumulative Index in this notebook.

RSTS/E MONITOR

0.0	RSTS/E V10.0 General Notes
0.1	System Notes
0.2	System Management Guidelines
1.0	Initialization
1.1	INIT.SYS Program Patches
1.2	INIT.SYS Program Notes
1.3	INIT.SYS Restrictions
2.0	System Installation and Update
2.1	Installation/Update Notes
2.2	Installation/Update .COM files
2.3	Installation/Update Restrictions
3.0	Executive
3.1	Monitor Patches
3.2	Monitor Notes
3.3	Monitor Restrictions
3.4	Terminal Service Patches
3.5	Terminal Service Notes
3.6	Terminal Service Restrictions
3.7	File Processor Patches
3.8	File Processor Notes
3.9	File Processor Restrictions
3.10	Device Driver Patches
3.11	Device Driver Notes
3.12	Device Driver Restrictions
3.13	FMS Monitor Patches
3.14	FMS Monitor Notes
3.15	FMS Monitor Restrictions
4.0	BASIC-PLUS
4.1	BASIC-PLUS Patches
4.2	BASIC-PLUS Notes
4.3	BASIC-PLUS Restrictions
4.4	Programming Hints
4.5	Math Packages
4.6	Matrix Functions

4.7	PRINT-USING
4.8	Record I/O
4.9	Virtual Core
4.10	String Arithmetic
4.11	Optional BASIC-PLUS Features

5.0	(Reserved)
-----	------------

6.0	System Files
6.1	System Files Notes
6.2	System Files Restrictions

7.0	DECnet/E Monitor Package V4.1
7.1	DECnet/E Monitor Patches
7.2	Package Notes
7.3	Package Restrictions

RSTS/E UTILITIES

8.0	Help Package (HELP\$)
8.1	Package Notes
8.2	Package Restrictions

9.0	TECO Package (TECO\$)
9.1	Package Notes
9.2	Package Restrictions

10.0	System Library (\$)
10.1	Library Notes
10.2	Library Restrictions

11.0	Auxiliary Library (AUXLIB\$)
11.1	Package Notes
11.2	Package Restrictions

12.0	Error Logging Package (ERROR\$)
12.1	Package Notes
12.2	Package Restrictions

13.0	RESTOR Package (RESTOR\$)
13.1	Package Notes
13.2	Package Restrictions

14.0	Operator Services and Spooling Package (OPSER\$)
14.1	Package Notes
14.2	Package Restrictions
15.0	Print/Batch Services Package (PBS\$)
15.1	Package Notes
15.2	Package Restrictions
16.0	Unsupported Package (UNSUPP\$)
16.1	Package Notes
16.2	Package Restrictions
17.0	Layered Product Update Package (UPDATE\$)
17.1	Package Notes
17.2	Package Restrictions
18.0	Device Test Package (TEST\$)
18.1	Package Notes
18.2	Package Restrictions
19.0	Operator/Message Services Package (OMS\$)
19.1	Package Notes
19.2	Package Restrictions
20.0	CUSP Source Package (SOURCE\$)
20.1	Package Notes
20.2	Package Restrictions
21.0	SORT/MERGE V3.0 (SORT\$)
21.1	Package Notes
21.2	Package Restrictions
22.0	RMS-11 V2.0 (RMS\$)
22.1	Package Notes
22.2	Package Restrictions
23.0	EDT V3.0 (EDT\$)
23.1	Package Notes
23.2	Package Restrictions
24.0	(Reserved)
25.0	(Reserved)

RSTS/E DOCUMENTATION

26.0	Documentation	
26.1	RSTS/E Documentation Directory	AA-2642H-TC
26.2	RSTS/E V10.0 Release Notes	AA-5246H-TC
26.3	RSTS/E V10.0 Maintenance Notebook	AA-L997E-TC
26.4	RSTS/E System Installation and Update Guide	AA-2669K-TC
26.5	RSTS/E System Manager's Guide	AA-2762H-TC
26.6	RSTS/E System User's Guide	AA-EZ12B-TC
26.7	RSTS/E Guide to Writing Command Procedures	AA-CF03A-TC
26.8	RSTS/E Utilities Reference Manual	AA-EZ11A-TC
26.9	Introduction to the EDT Editor	AA-K443A-TC
26.10	PDP-11 SORT/MERGE User's Guide	AA-CI67B-TC
26.11	RSTS/E RUNOFF User's Guide	AA-3337B-TC
26.12	EDT Editor Manual	AA-M476A-TK
26.13	RSTS/E Task Builder Reference Manual	AA-5072D-TC
26.14	RSTS/E Programmer's Utilities Manual	AA-D749A-TC
	RSTS/E Programmer's Utilities Manual Update 1	AD-D749A-T1
	RSTS/E Programmer's Utilities Manual Update 2	AD-D749A-T2
26.15	RSTS/E RT11 Utilities Manual	AA-M213A-TC
26.16	PDP-11 TECO User's Guide	AA-K420B-TC
26.17	BASIC-PLUS Language Manual	AA-2623D-TC
26.18	RSTS/E Programming Manual	AA-EZ09B-TC
26.19	RSTS/E System Directives Manual	AA-EZ10B-TC
26.20	IAS/RSX-11 ODT Reference Manual	AA-M507A-TC
26.21	PDP-11 MACRO-11 Language Reference Manual	AA-KX10A-TC
	PDP-11 MACRO-11 Language Reference Manual Update	AD-KX108A-T1
26.22	RSTS/E RMS-11 MACRO Programmer's Guide	AA-P507A-TC
26.23	RSTS/E RMS-11: An Introduction	AA-P508A-TC
26.24	RSTS/E RMS-11 User's Guide	AA-P510A-TC
26.25	RSTS/E RMS-11 Utilities Manual	AA-P509A-TC
26.26	RSTS/E Quick Reference Guide	AA-EZ13C-TC
26.27	Introduction to BASIC	AA-0155B-TK
26.28	EDT Quick Reference Guide	AA-M477A-TK
26.29	RSTS/E V10.0 Internals and Data Structures Manual	AA-PB60A-TC

RUN-TIME SYSTEMS SUPPORT

27.0	DCL Run-time System and Utilities
27.1	Package Notes
27.2	Package Restrictions
28.0	RSX-11 Emulator and Utilities
28.1	Package Notes
28.2	Package Restrictions
29.0	RT-11 Emulator and Utilities
29.1	Package Notes
29.2	Package Restrictions
30.0	(Reserved)

OPTIONAL SOFTWARE

31.0	DECnet/E Utilities V4.1 (DECNET\$)	
31.1	Package Notes	
31.2	Package Restrictions	
32.0	DECnet/E V4.1 Documentation	
32.1	DECnet/E V4.1 Release Notes	AA-M269D-TC
32.2	DECnet/E V4.1 System Manager's Guide	AA-H505D-TC
32.3	DECnet/E V4.0 Network Programming in BASIC-PLUS and BASIC-PLUS-2	
32.4	DECnet/E V4.0 Network Programming in MACRO	
32.5	DECnet/E V4.0 Network Programming in FORTRAN	
32.6	DECnet/E V4.0 Network Programming in COBOL	
32.7	DECnet/E V4.0 Guide to User Utilities	AA-H504C-TC
32.8	DECnet/E V4.0 Network Installation and Update Guide	AA-K714C-TC
33.0	PDP-11 C V1.0	
33.1	Package Notes	
33.2	Package Restrictions	
34.0	WPS-PLUS/RSTS V1.1	
34.1	Package Notes	
34.2	Package Restrictions	
35.0	(Reserved)	
36.0	DECmail-11 V3.1	

36.1	Package Notes
36.2	Package Restrictions
37.0	(Reserved)
to	
44.0	
45.0	DECdx/RSTS V1.0
45.1	Package Notes
45.2	Package Restrictions
46.0	(Reserved)
47.0	(Reserved)
48.0	BASIC-PLUS-2 V2.6
48.1	Package Notes
48.2	Package Restrictions
49.0	DATATRIEVE-11 V3.3A
49.1	Package Notes
49.2	Package Restrictions
50.0	(Reserved)
to	
54.0	
55.0	FORTRAN IV V2.8
55.1	Package Notes
55.2	Package Restrictions
56.0	COBOL-81 V3.0
56.1	Package Notes
56.2	Package Restrictions
57.0	FORTRAN-77 V5.4
57.1	Package Notes
57.2	Package Restrictions
58.0	PDP-11 Symbolic Debugger V2.1
58.1	Package Notes
58.2	Package Restrictions
59.0	(Reserved)

60.0	(Reserved)
61.0	(Reserved)
62.0	PLXY-11 V1.3
62.1	Package Notes
62.2	Package Restrictions
63.0	(Reserved)
to	
67.0	
68.0	MENU-11 V2.0
68.1	Package Notes
68.2	Package Restrictions
69.0	(Reserved)
to	
72.0	
73.0	DIBOL V6.1
73.1	Package Notes
73.2	Package Restrictions
74.0	(Reserved)
to	
89.0	
90.0	User Assigned Components - For Development Use
90.1	Package Notes
90.2	Package Restrictions
91.0	User Assigned Components - For User Use
to	
99.0	

3 Software Performance Reports

Each new installation is provided with Software Performance Report (SPR) forms. The SPR form allows you to suggest enhancements to, or report problems with Digital software or documentation. When you discover a problem, complete an SPR and mail it to the local SPR Center (see the inside back cover of the SPR form).

Responses will be sent to the name and address appearing on the form. You can obtain additional SPR forms by writing to the local SPR Center.

SPR response service is provided at no charge for one year after installation and may be continued by subscription thereafter.

3.1 Software Performance Report Guidelines

These guidelines for RSTS/E SPR completion ensure that adequate information is included to prevent delays in processing.

For all types of actual or suspected software problems, include the following with the SPR:

- A complete description of the problem
- The CPU type
- The system disk type
- The amount and type of memory
- A log file showing the error and the steps you followed to cause it
- If possible, a simple program or procedure which can be used to reproduce the problem
- Any additional information which you may think is relevant

For problems associated with the RSTS/E monitor or crash analysis package (ANALYS), also include:

- The crash dump printed by ANALYS (which includes annotations, a listing of the symbol table, and a list of all installed patches)
- A machine readable copy (preferably a backup on 9-track or TK50 magnetic tape) of your monitor and CRASH.SYS file

When submitting an SPR concerning a Digital-supplied utility (CUSP), also include:

- The name of the CUSP
- A RUN of the CUSP which displays the header line, version number, and the occurring problem, if possible
- A listing of the account(s), and the account(s) attributes, in which the problem occurs
- A complete listing of the CUSP (preferably on magnetic tape) if your installation has made any nonstandard changes

- Listings of all relevant input and output files
- A log file showing the problem

NOTE

No SPR, monitor or CUSP, will be considered unless ALL relevant Mandatory patches published to date have been applied. Before submitting an SPR, you should review the relevant section(s) of the Maintenance Notebook to ensure that all Mandatory updates and patches to the program or package have been installed.

4 Procedures for Updating RSTS/E Software

This section briefly describes the update procedures to be used for maintenance of RSTS/E V10.0. The procedures to be followed for updating the monitor and system programs when installing a new RSTS/E system are described in the *RSTS/E System Installation and Update Guide*. The procedures for updating the software as part of normal system maintenance are described in the *RSTS/E System Manager's Guide*.

Most corrections to RSTS/E software are done by replacing the affected components with updated versions distributed on the next release of RSTS/E. These replacement modules are automatically installed as part of the RSTS/E installation and update process.

In cases where a critical problem is discovered, Digital publishes an article in the *RSTS/E Software Dispatch* describing the problem and suggesting possible workarounds until the module is replaced in the next V10 update release. If no reasonable work-arounds are available, a patching procedure may be included in the article so you can correct the defective module. Step-by-step instructions on how to apply the patch are included.

Unless otherwise stated, Mandatory patches published in the *RSTS/E Software Dispatch* should be installed as soon as possible. Since not all Mandatory patches apply to every installation, patches to unused or optional components will fail when you attempt to apply them. In such cases, the patch article describes how the patch will fail if it does not apply to your system.

Be sure to file and maintain all *RSTS/E Software Dispatch* articles, even for unused components. Your site may choose at some future time to install additional components; these components will then have to be brought up to the latest support level.

Some *RSTS/E Software Dispatch* articles include Feature patches, allowing you to modify a component to enable an optional feature of that component. These Feature patches are optional and not required to keep a component at its current support level. However, if you encounter problems in a component containing optional features, you must report which Feature patches have been installed when submitting a Software Performance Report (SPR).

4.1 Monitor Patching

Normally, problems discovered in a RSTS/E monitor are corrected by replacing the defective component during the installation and update procedure. You must rebuild your system's monitor each time you receive a new RSTS/E update to install any corrections made to the monitor components.

If it should become necessary for you to apply a patch to your system's monitor, the *RSTS/E Software Dispatch* article describing the problem will also explain how to apply the patch. Normally, changes to the RSTS/E monitor are made using the off-line PATCH option of INIT.SYS or the on-line program \$ONLPAT.SAV. General descriptions of these patching tools and how to use them are included in the *RSTS/E System Installation and Update Guide* and the *RSTS/E System Manager's Guide*.

The patching article includes specific instructions on how to apply the patch. The expected dialogue is shown in the article as it should appear when you install the patch. If any deviation occurs, you should immediately do the following:

1. Halt the patching process
2. Restore any changes already made to their former values
3. Determine where the discrepancy occurred

4.2 Commonly Used System Program (CUSP) Module Replacement

Like the monitor, corrections to individual RSTS/E programs are made by replacing the defective module with a replacement from the V10.0 Installation Kit. These replacement modules are automatically installed whenever you install or update the package containing the replacement program. For example, if a replacement module for the HELP.TSK program is included on a RSTS/E installation kit, then that module will replace the copy of HELP.TSK on your system whenever you install or update the HELP package.

All replacement modules for bundled software will automatically be applied whenever you install or update your RSTS/E software.

4.3 Installation Kits

RSTS/E Installation Kits contain the minimal software necessary to create a RSTS/E system, as well as replacement modules and/or patches for software supported under RSTS/E V10.0. The RSTS/E V10.0 Installation Kit contains all patches published in the *RSTS/E V10.0 Maintenance Notebook* and in the *RSTS/E V10.0 Software Dispatch Review*. Each subsequent RSTS/E Installation Kit will contain all of the components from the previous installation kit, plus any new modules and/or patches published in the *RSTS/E Software Dispatch*. Thus, you only need the most recent RSTS/E installation kit to update your system to the current revision level.

Note that in some cases, patches previously published in the *RSTS/E Software Dispatch* will become obsolete, since the correction provided by the patch is included in the replacement module itself. In such cases, a new Dispatch article is published to supersede the previous patch article.

The Cumulative Index published in the *RSTS/E Software Dispatch* indicates which installation kit first contained a patch or module replacement.

Procedures for using the installation kit to update standard RSTS/E software can be found in the *RSTS/E System Installation and Update Guide*. Procedures for updating optional layered software are usually found in the appropriate installation manual for the product.

4.4 Patches and Replacement Modules for Optional Layered Products

The RSTS/E V10.0 Installation Kit also contains patches and replacement modules for optional layered products. To install layered product patches or replacement modules, you must first transfer all of the patches, replacement modules, and command files for that product to a patch account (PATCH\$ by default) on your system. This step is required for both disk and tape installation kits.

To transfer layered product update components from the RSTS/E installation kit to the PATCH\$ account, perform either of these steps:

- During the installation procedure, type YES to the prompt:

Do you want to transfer the layered product update components from the
Installation kit ?

- Invoke the DCL copy update command procedure by typing the DCL command line:

\$ @[0,1]COPYUP *package_name*

where *package_name* is the name of the layered product you want to update.

5 Software Product Descriptions and Option Bulletins

Periodically, new or revised Software Product Description (SPD) bulletins appear in the *RSTS/E Software Dispatch* for various software products marketed by Digital. This section of the notebook provides a convenient place to file these SPDs for future reference.

5.1 Software Product Descriptions

The Software Product Description (SPD) is the document that describes a software product. Every SPD has a unique number, for example *SPD 13.1.20*. This number appears on the first page of the SPD bulletin, at the far right hand side of the Product Name.

Note that the last part of the SPD number is the revision level, with 0 being assigned for original issues of SPDs.

5.2 Option Bulletins

Periodically, new or revised Option Bulletins appear in the *RSTS/E Software Dispatch* for various products marketed by Digital. This section of the notebook provides a convenient place to file these bulletins. There is no filing scheme for option bulletins.

6 RSTS/E V10.0 Articles

This section is the repository for all RSTS/E articles. It includes problem solutions, optional feature patches, documentation errata, programming hints, and tips for better operation of RSTS/E.

Anyone who installs a RSTS/E system (whether online under time sharing or as the initial version of the system) should become familiar with these articles. This should be a continuing process of education as subsections are added and updated.

THE UNIVERSITY OF CHICAGO

Office of the President

Dear Mr. President:

I am pleased to hear that you are planning to visit the University of Chicago. I am sure that your visit will be a most fruitful one. I am sure that you will find the University of Chicago to be a most interesting and stimulating place. I am sure that you will find the University of Chicago to be a most interesting and stimulating place.

RSTS/E V10.0 Component Summary

RSTS/E V10.0

RSTS/E V10.0 General Notes

System Notes

This article will be used to provide an updated list of all software components included with RSTS/E V10.0. Appendix C of the *RSTS/E System Installation and Update Guide* contains a current list of these software components. If the list changes, this article will be superseded to contain the current list.

Neither Appendix C of the *RSTS/E System Installation and Update Guide* nor this article includes optional layered product components or temporary modules created during installation. Modules belonging to an optional package included with RSTS/E will only be present if you choose to install that package on your system.

Listed with each module is its standard protection code and its expected location on your system. Note that file protection codes play a critical role in the overall security of your system. You should not change the protection code of any file included with RSTS/E unless directed to do so. Changing a file's protection code to a different value may compromise security or cause the program to fail in unpredictable ways.

Unnecessary Error Message When Booting 800 BPI Tape on TM02

RSTS/E V10.0

Initialization

INIT.SYS Notes

An unnecessary error message prints when an 800 BPI magnetic tape on a TE16 subsystem that uses a TM02 formatter is booted from the *Option:* prompt of INIT.SYS. For example:

MM0 Error	MTCS1	MTWC	MTFC	MTCS2	MTDS	MTER	MTTC
	144270	000000	001007	000100	154640	102100	102300

The error message you receive may be different.

This message prints as a result of the density autosizing process that occurs on TM02 formatters and does not indicate an actual hardware error.

1. The first part of the paper is devoted to a general discussion of the problem.

2. In the second part, we consider the case of a single particle in a potential well.

3. The third part is devoted to the case of a system of particles in a potential well.

4. In the fourth part, we consider the case of a system of particles in a potential well.

5. The fifth part is devoted to the case of a system of particles in a potential well.

6. In the sixth part, we consider the case of a system of particles in a potential well.

7. The seventh part is devoted to the case of a system of particles in a potential well.

8. In the eighth part, we consider the case of a system of particles in a potential well.

9. The ninth part is devoted to the case of a system of particles in a potential well.

10. In the tenth part, we consider the case of a system of particles in a potential well.

First TMSCP Drive on System Must Be Unit 0 — INIT.SYS Restriction

RSTS/E V10.0

Initialization

INIT.SYS Restrictions

If your system contains only one TMSCP tape drive (TU81 or TK50), it must be designated unit 0. If you have two drives and unit 0 does not work, you must make the working drive unit 0 and either disconnect the non-working drive or use the HARDWR DISABLE option of INIT.SYS to disable it.

The controller number must also match the drive number. For example:

- Valid:

Name	Address	Vector	Comments
MU0:	174500	P350	TU81 Units: 0 (TU81)
MU1:	160504	P354	TK50 Units: 1 (TK50)

- Invalid:

Name	Address	Vector	Comments
MU0:	174500	P350	TU81 Units: 1 (TU81)
MU1:	160504	P354	TK50 Units: 0 (TK50)

10/10/19

Dear Mr. [Name] (10/10/19) (10/10/19) (10/10/19)

I am writing to you regarding the [Topic] (10/10/19) (10/10/19) (10/10/19)

As you are aware, the [Topic] (10/10/19) (10/10/19) (10/10/19)

is a matter of [Topic] (10/10/19) (10/10/19) (10/10/19)

and I am sure that you will [Topic] (10/10/19) (10/10/19) (10/10/19)

be interested in [Topic] (10/10/19) (10/10/19) (10/10/19)

and I am sure that you will [Topic] (10/10/19) (10/10/19) (10/10/19)

be interested in [Topic] (10/10/19) (10/10/19) (10/10/19)

and I am sure that you will [Topic] (10/10/19) (10/10/19) (10/10/19)

be interested in [Topic] (10/10/19) (10/10/19) (10/10/19)

and I am sure that you will [Topic] (10/10/19) (10/10/19) (10/10/19)

be interested in [Topic] (10/10/19) (10/10/19) (10/10/19)

MT/MM Tapes Must Be Booted From Unit 0 — INIT.SYS Restriction

RSTS/E V10.0

Initialization

INIT.SYS Restrictions

Magnetic tape distributions of RSTS or any bootable recovery tapes of RSTS must be booted from unit zero. This problem affects MM and MT drives.

10-10-1988

10-10-1988 10:00 AM 10:00 AM 10:00 AM 10:00 AM 10:00 AM

10-10-1988 10:00 AM 10:00 AM 10:00 AM 10:00 AM 10:00 AM



Installation Flag Files

RSTS/E V10.0

System Installation and Update

Installation / Update Notes

Flag files are files of zero length that are used by the Installation Procedure as status indicators. The flag files used in V10.0 are:

1. The file VER00L.SYS in account [1,2]
2. Any file with a filetype of .00L

These flag files should not be deleted. Doing so may cause certain layered product installations and updates to fail.

DCL Log File Corruption on Full Disk — Monitor Restriction

RSTS/E V10.0

Executive

Monitor Restrictions

If the disk on which a DCL or Batch log file is being written becomes full, no more data is written to the log file. As space on the disk becomes available, the resultant log file may contain one or two blocks of random data.

Changing Special LOGIN Terminal — Terminal Service Feature Patch

RSTS/E V10.0

Executive

Terminal Service Patches

The number of jobs that can log in to a RSTS/E system is limited by the swapping space available, the JOB MAX set at system startup time, and the login setting (set by the SET SYSTEM/[NO]LOGINS command). However, the console terminal (KB0:) is a special terminal, and can log in regardless of the login setting, provided that swapping space and JOB MAX permit.

With the following patch, one or two special keyboards can be selected, or this feature can be disabled entirely.

Procedure

1. This is a feature patch to the RSTS/E V10.0 monitor. It may be installed in any target monitor SIL.
2. Decide which terminals should be allowed to log in regardless of the login setting, and use those numbers as *m* and *n* in the patch in step 5. If you want to allow only one terminal, use its number as *m* and use -1 in place of *n*. If you want to disable this feature, use -1 in place of both *m* and *n*. Be sure you include the decimal point after the new value of *m* or *n* so that it is interpreted as a decimal number.
3. The patch described in Step 5 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? <CR>      (RETURN for installed monitor SIL)
```

4. This patch can be installed manually using ONLPAT, the online patching program:

```
RUN $ONLPAT
Command File Name? <CR> (RETURN for manual installation)
File to patch? <CR>     (RETURN for installed monitor SIL)
File found in account [0,1]
```

This feature patch is contained in the file PA0304.001 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure. ¹

¹ The patch file for this patch requires manual editing to include installation specific parameters before it can be successfully installed.

5. The patch is as follows:

```

Module name? KIN
Base address? ..CTZ.@OVR
Offset address? 0
  Base   Offset  Old      New?
??????  000000  000000  ? m.*2  (or -1, from step 2)
??????  000002  001407  ? ^Z    (CTRL/Z for new offset)
Offset address? ^Z                      (CTRL/Z for new base)
Base address? ..CTY.@OVR
Offset address? 0
  Base   Offset  Old      New?
??????  000000  177777  ? n.*2  (or -1, from step 2)
??????  000002  001404  ? ^Z    (CTRL/Z for new offset)
Offset address? ^Z                      (CTRL/Z for new base)
Base address? ^Z                        (CTRL/Z for new module)
Module name? RSTS
Base address? $$0304
Offset address? 0
  Base   Offset  Old      New?
??????  000000  ??????  ? Q!1
??????  000002  ??????  ? ^C    (up-arrow/C to exit; CTRL/C for INIT)

```


Input Escape Sequence Handling — Terminal Service Feature Patch

RSTS/E V10.0

Executive

Terminal Service Patches

RSTS/E allows multiple character incoming escape sequences. The *RSTS/E Programming Manual* fully describes the escape sequence handling.

One of the multicharacter escape sequences is ESCape followed by "P", followed by one modifier character. On the VT52 terminal, the upper left-hand key on the auxiliary keypad (usually blue) generates ESC P. When the VT100 terminal is operating in VT52 mode, the upper left-hand key on the auxiliary keypad (usually labeled "PF1") generates ESC P. If the terminal user types this key and then any other graphic key, the whole sequence is gathered by the terminal service and delivered to the application program. None of the sequence is echoed. Thus, the blue key can be considered a "function" key to be followed by some function code character.

On the other hand, some existing applications using the VT52 may expect this key to generate a stand-alone escape sequence with no required (or desired) modifier character. You may install the following patch to change the terminal service so that the ESCape, "P" sequence does not expect a modifier character. Note that this patch affects *all* terminals on the system.

Procedure

1. This is a feature patch to the RSTS/E monitor. It may be installed in any target monitor SIL.
2. The patch described in Step 4 can be installed using the PATCH option of INIT.SYS:


```
Option: PATCH
File to patch? <CR>      (RETURN for installed monitor SIL)
```
3. This patch can be installed manually using ONLPAT, the on-line patching program:


```
RUN $ONLPAT
Command File Name? <CR> (RETURN for manual installation)
File to patch? <CR>      (RETURN for installed monitor SIL)
File found in account [0,1]
```

This feature patch is contained in the file PA0304.002 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure.

4. The patch is as follows:

```
Module name? KIN
Base address? ..ESCP@OVR
Offset address? 0
  Base   Offset  Old      New?
??????? 000000  050001  ? Q&177400
??????? 000002  ??????  ? ^Z   (CTRL/Z for new offset)
Offset address? ^Z      (CTRL/Z for new base)
Base address? ^Z        (CTRL/Z for new module)
Module name? RSTS
Base address? $$0304
Offset address? 0
  Base   Offset  Old      New?
??????? 000000  ??????  ? Q!2
??????? 000002  ??????  ? ^C   (up-arrow/C to exit; CTRL/C for INIT)
```


Modem Support on RSTS/E

RSTS/E V10.0

Executive

Terminal Service Notes

Notes on the DF224 Scholar Modem

When using the DF224 Scholar Modem on a RSTS/E system, RSTS requires that the Modem Response option be set to abbreviated. Failing to set the response option to abbreviated may cause speed select problems with modems connected to a terminal line which is set to auto-baud.

RSTS also suggests that the Input Character Echo option be disabled when using the DF224 autodial feature. Disabling this feature will prevent text intended for the modem (i.e., the telephone number) from being echoed back to the program.

The state of both these features can be altered by either changing a switch setting on the switch pack located internally on the module, or through the soft select menu. If you alter the state of these features by using the menu, then the settings will revert back to their default state if the unit is powered down. Therefore, RSTS recommends that the states be changed by changing the internal switch settings. To do this, you must set switch S1 to the OFF position to disable Input Character Echo, and switch S3 to the OFF position to set the Modem Response to abbreviated. Please refer to page A-3 of the *Scholar 2400 Modem Owner's Manual* (EK-DF224-OM-PRE) for a diagram of the switchpack and its factory default settings.

Some DF224 modem may send "garbage" characters to the terminal just prior to sending the disconnect message after the remote modem drops carrier. This is the way the modem operates and is *not* a problem with RSTS/E.

NOTE

RSTS/E will only support Scholar Modems of revision level B1 or later. Determining the revision level of your modem can be done by looking for a small white sticker on the underside of the enclosure. This sticker should read "C.S. REV. B1 ECO". Older versions of the DF224 have also shown over-speed problems which resulted in intermittent loss of characters. This problem was corrected in revision level B1.

Please also note that the *DF224 Owner's Manual* states that the Scholar Modem is capable of transmitting data at 600 baud. The Scholar Modem at revision level B1 does *not* support 600 baud.

Notes on the DF112 Modem

The DF112-AA modem is a replacement for the DF03. It provides full-duplex asynchronous mode for terminal data communication and synchronous mode for network data communication. The DF112 has auto dial capability and operates at both 300 and 1200 baud.

When the DF112 is connected to a DZ11 interface, the BUSY jumper or switch on the EIA distribution panel must be disconnected for the line on which the modem is connected. Interfaces other than the DZ11 do not require any special setup for dial-in communications.

Using Autodial (Dial-out) Features

RSTS/E requires that a modem be active before allowing communication with it. RSTS/E detects activity by monitoring the presence of certain modem control signals. Supported modems will assert these signals if the host system asserts the Data Terminal Ready (DTR) signal. On RSTS/E, a program that wants to do this should execute the Hang Up a Dataset SYS call (F0=-9) on the keyboard to which the modem is connected prior to dialing. For example:

```

10  $$=SYS (CHR$ (6%) +CHR$ (-9%) +CHR$ (45%) +CHR$ (-1%))
                                     !Set DTR on KB45:
20  OPEN 'KB45:' AS FILE #1%         !Open the keyboard

```

NOTE

It is important that the SYS call to set DTR be called prior to opening the terminal. This call causes necessary parameters in the keyboard DDB to be reset.

Once DTR is established, the phone number can be passed to the modem and communication can begin. Please refer to the owner's manual that accompanied your modem for any programming considerations.

RSTS/E follows strict modem control rules on the DH11 interface with the DM11-BB option, and on DHV11/DHU11-type interfaces. In particular, RSTS/E will not allow data to be sent to a modem controlled keyboard unless the "Clear To Send" (CTS) signal has been asserted by the terminal device. Many modems do not normally assert this signal until a call has been *received*, and may therefore require special setup or a nonstandard RS232 cable to work as a dial-out modem on RSTS/E.

- *DF03 Modem*

To allow the data to be sent to the DF03, the CTS signal must be tied high in the DF03 modem. This can be done by turning S2-10 (jumper W30) on, as described on page 5-15 of the *DF03 Modem Family User Guide* (EK-ODF03-UG-002), or page 6-6 of the *DF03 Modem User Guide* (EK-ODF03-UG-001).

- *DF112 Modem*

Unlike the DF03 modem, the DF112 does not have a switch pack setting to assert the CTS signal. Therefore, the signal must be set high by connecting pin 5 to pin 4 within the cable connector which plugs into the modem.

NOTE

RSTS/E does *not* support auto dial capability on the DH11 interface for the DF112 modem. Unlike the DHV11/DHU11 type interface, attempting to set the CTS signal high by tying to an existing signal will cause that signal to go low. The DF112 *can* be used on DH11 interfaces for dial-in purposes only.

- *DF224 Scholar Modem*

The DF224 Scholar Modem automatically raises CTS when the DTR signal is raised by the host. Therefore, other than disabling the Input Character Echo option and the abbreviated modem response option described above, no other changes are required.



1. The first part of the document is a letter from the President of the United States to the Congress, dated September 17, 1787. It is a very important document, as it is the first official communication of the new government. The letter is written in a formal, dignified style, and it is signed by George Washington.

2. The second part of the document is a copy of the Constitution of the United States, as it was originally written. It is a very important document, as it is the foundation of the American government. The Constitution is written in a clear, concise style, and it is signed by the delegates to the Constitutional Convention.

Unexpected Abort From Captive Command File Will Not Hang Up Dialup Line

RSTS/E V10.0

Executive

Terminal Service Notes

To terminate a connection on a dialup line, the Terminal Driver deasserts the DTR (Data Terminal Ready) modem control signal, which causes the modem to disconnect from the telephone line. This is normally handled by the LOGOUT system utility. However, if you access the system from a captive account over a dialup line and the command procedure you are running aborts abnormally (without using LOGOUT), DTR will not be deasserted and thus the connection will not be terminated.

A workaround to this is to trap all possible errors within the command procedure and exit by using the LOGOUT command.

1. The first part of the paper is devoted to a general discussion of the problem.

2. In the second part, we shall consider the case of a single particle.

3. The third part is devoted to the case of a system of particles.

4. In the fourth part, we shall consider the case of a continuous medium.

5. The fifth part is devoted to the case of a system of continuous media.

6. In the sixth part, we shall consider the case of a single continuous medium.

7. The seventh part is devoted to the case of a system of continuous media.

8. In the eighth part, we shall consider the case of a single continuous medium.

9. The ninth part is devoted to the case of a system of continuous media.

10. In the tenth part, we shall consider the case of a single continuous medium.

DB/DR Driver May Log Errors for Wrong Unit — DRSEEK/DBSEEK Restriction

RSTS/E V10.0

Executive

Device Driver Restrictions

The DB and DR overlapped seek disk drivers (DBSEEK and DRSEEK) may count or log errors for the wrong disk unit if there is heavy DB/DR disk activity and an attempt is made to mount a unit that is spun down or is off line.

Page 1 of 1

1. Introduction

2. Methodology

3. Results

4. Discussion

5. Conclusion

6. References

7. Appendix

8. Acknowledgements

9. Contact Information

Swapping MSCP/TMSCP Unit Numbers May Cause Crash — MSCP/TMSCP Device Driver Restriction

RSTS/E V10.0

Executive

Device Driver Restrictions

On systems having multiple UDA50-A MSCP controllers, a system crash may result if disk unit numbers are swapped between two drives on different UDA50-A controllers during timesharing.

The preferred workaround is to only swap drive numbers between controllers when timesharing is not running. The best method is to shut the system down and swap the unit numbers when the Start timesharing prompt appears. After swapping the unit numbers, reboot the system disk and restart timesharing.

Special PRINT-USING Characters — BASIC-PLUS Feature Patch

RSTS/E V10.0

BASIC-PLUS

BASIC-PLUS Patches

The PRINT-USING option of BASIC-PLUS provides for floating dollar sign, comma insertion every three digits to the left of the decimal point, and printing of the decimal point. The \$ sign is used for the currency symbol in the United States and Canada, but various other symbols are used for other monetary systems. In the United Kingdom it would be useful to float the Pound Sterling symbol (or whatever ASCII character is used to represent that symbol) instead of the \$ sign. In France, a floating Franc symbol (or F) would be generally more useful than the floating \$ sign. The role of the comma and period are also reversed in France (for example, 9,999,999.02 should be printed as 9.999.999,02).

To accommodate these differences in monetary systems, PRINT-USING is coded to allow substitution of any character for the floating currency symbol, the decimal point character, and the every-three-digits character. These three characters are defined by three words in the BASIC-PLUS Run-Time system. System defaults and several suggestions are shown in the following table:

Location	Usage	Default	England	France
..PUCH+0	Floating currency symbol	\$ (044)	& (046)	F (106)
..PUCH+2	Decimal point character	. (056)	. (056)	, (054)
..PUCH+4	Every three digits character	, (054)	, (054)	. (056)

Substitution of different characters, such as those listed under England and France, is done with a simple patch. Any change will affect both the PRINT-USING format string and the output produced. For example, if the suggestions under France were installed, the following PRINT-USING statement would result in the output shown:

```
PRINT USING "FF#.#####," 3673298.02, 4545.20
```

```
F3.673.298,02
```

```
F4.545,20
```

Since any change in this area does render the PRINT-USING documentation slightly incorrect, an appropriate note should be published for users of the system.

Procedure

1. This is a feature patch to the BASIC-PLUS Run-Time system. It may be installed in any BASIC-PLUS Run-Time system configured with Print-Using.
2. Determine the three special characters you want to use for the floating currency symbol, the decimal point character, and the every-three-digits character. The chosen characters can be entered as either:
 - 'x where x is the chosen printable character
 - n where n is the octal value of the chosen character
 - n. where n is the decimal value of the chosen character

3. The patch described in Step 5 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? BASIC.RTS                    (BASIC-PLUS run-time system name)
```

4. This patch can be installed manually using ONLPAT, the online patching program:

```
RUN $ONLPAT
Command File Name? <CR>                    (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS              (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0401.001 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure. ¹

5. The patch is as follows:

```
Base address? ..PUCH
Offset address? 0
Base    Offset   Old    New?
?????? 000000   000044 ? 'f    (currency sign from Step 2)
?????? 000002   000056 ? ',    (decimal point from Step 2)
?????? 000004   000054 ? '.    ("every three" from Step 2)
?????? 000006   ?????? ? ^C    (up-arrow/C to exit;CTRL/C for INIT)
```

6. If the above patch was installed using ONLPAT, it will take effect the next time the Run-Time system is reloaded. If the Run-Time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC            (BASIC-PLUS run-time system name) 2
```

¹ The patch file for this patch requires manual editing to include installation specific parameters before it can be successfully installed.

² The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.

Default Scale Factor — BASIC-PLUS Feature Patch

RSTS/E V10.0
BASIC-PLUS
BASIC-PLUS Patches

The BASIC-PLUS default SCALE factor may be modified by utilizing the procedure in this article. A complete description of SCALE factors is included in the *BASIC-PLUS Language Manual*.

Procedure

1. This is a feature patch to the BASIC-PLUS Run-Time system. It may be installed in any BASIC-PLUS Run-Time system configured with the 4-word, scaled math package.
2. Determine the new BASIC-PLUS default SCALE factor. This default SCALE factor must be between 0 and 6 inclusive.
3. The patch described in Step 5 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? BASIC.RTS      (BASIC-PLUS run-time system name)
```

4. This patch can be installed manually using ONLPAT, the on-line patching program:

```
RUN $ONLPAT
Command File Name? <CR>      (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0401.002 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure. ¹

5. The patch is as follows:

```
Base address? ..SCA.
Offset address? 0
Base   Offset  Old      New?
?????? 000000 000000 ? n      (from Step 2)
?????? 000002 ??????? ? ^C  (up-arrow/C to exit; CTRL/C for INIT)
```

6. If the above patch was installed using ONLPAT, it will take effect the next time the run-time system is reloaded. If the run-time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC      (BASIC-PLUS run-time system name) 2
```

¹ The patch file for this patch requires manual editing to include installation specific parameters before it can be successfully installed.

² The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.



Omitting Scale Factor Warning Message — BASIC-PLUS Feature Patch

RSTS/E V10.0
BASIC-PLUS
BASIC-PLUS Patches

Normally, if a BASIC-PLUS program is compiled with one SCALE factor and then is run under a different job SCALE factor, the %SCALE Factor Interlock warning message is printed and execution proceeds using the program's SCALE factor. It may be desirable to omit the printing of this message.

Procedure

1. This is a feature patch to the BASIC-PLUS run-time system. It may be installed in any BASIC-PLUS run-time system configured with the 4-word, scaled math package.
2. The patch described in Step 4 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? BASIC.RTS      (BASIC-PLUS run-time system name)
```

3. This patch can be installed manually using ONLPAT, the on-line patching program:

```
RUN $ONLPAT
Command File Name? <CR>      (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0401.003 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure.

4. The patch is as follows:

```
Base address? ..SCE.
Offset address? 0
Base   Offset Old   New?
?????? 000000 104577 ? 240   (for no warning message)
?????? 000002 000207 ? ^C   (up-arrow/C to exit; CTRL/C for INIT)
```

5. If the above patch was installed using ONLPAT, it will take effect the next time the run-time system is reloaded. If the run-time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC      (BASIC-PLUS run-time system name) 1
```

¹ The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.

Default to NOEXTEND Mode — BASIC-PLUS Feature Patch

RSTS/E V10.0
BASIC-PLUS
BASIC-PLUS Patches

Normally, BASIC-PLUS defaults to EXTEND mode. To change this default to NOEXTEND mode, apply the patch in this article.

Procedure

1. This is a feature patch to the BASIC-PLUS run-time system. It may be installed in any BASIC-PLUS run-time system.
2. The patch described in Step 4 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? BASIC.RTS          (BASIC-PLUS run-time system name)
```

3. This patch can be installed manually using ONLPAT, the on-line patching program:

```
RUN $ONLPAT
Command File Name? <CR>          (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS    (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0401.004 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure.

4. The patch is as follows:

```
Base address? ..XTN.
Offset address? 0
Base   Offset  Old      New?
?????? 000000 020000  ? 0
?????? 000002 ??????? ? ^C  (up-arrow/C to exit; CTRL/C for INIT)
```

5. If the above patch was installed using ONLPAT, it will take effect the next time the run-time system is reloaded. If the run-time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC          (BASIC-PLUS run-time system name) 1
```

¹ The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.

Immediate Mode from .BAS File — BASIC-PLUS Feature Patch

*RSTS/E V10.0**
BASIC-PLUS
BASIC-PLUS Patches

Normally, BASIC-PLUS does not allow immediate-mode commands to appear in the file accessed by the OLD command. This may be desirable in environments where this feature was used in previous versions of BASIC-PLUS. To allow BASIC-PLUS to accept immediate mode commands in files, apply the patch in this article.

Procedure

1. This is a feature patch to the BASIC-PLUS run-time system. It may be installed in any BASIC-PLUS run-time system.

2. The patch described in Step 4 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? BASIC.RTS          (BASIC-PLUS run-time system name)
```

3. This patch can be installed manually using ONLPAT, the on-line patching program:

```
RUN $ONLPAT
Command File Name? <CR>          (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS    (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0401.005 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure.

4. The patch is as follows:

```
Base address? ..IBAS
Offset address? 0
  Base   Offset   Old      New?
??????  000000   001401   ? 401
??????  000002   104767   ? ^C   (up-arrow/C to exit; CTRL/C for INIT)
```

5. If the above patch was installed using ONLPAT, it will take effect the next time the run-time system is reloaded. If the run-time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC          (BASIC-PLUS run-time system name) 1
```

¹ The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.

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Disabling the CCL SYS Call — BASIC-PLUS Feature Patch

RSTS/E V10.0
BASIC-PLUS
BASIC-PLUS Patches

Normally, BASIC-PLUS allows any user to execute any valid CCL command on the system with SYS call 14. However, some installations may choose to disable this feature to discourage users from writing programs that will simulate the features of a standard run-time system. The patch in this article prevents BASIC-PLUS from executing SYS call 14.¹ It will not prevent the use of SYS call 14 from other languages such as BASIC-PLUS-2 or MACRO-11.

Procedure

1. This is a feature patch to the BASIC-PLUS run-time system. It may be installed in any BASIC-PLUS run-time system.
2. The patch described in Step 4 can be installed using the PATCH option of init.sys:

```
Option: PATCH
File to patch? BASIC.RTS      (BASIC-PLUS run-time system name)
```

3. This patch can be installed manually using ONLPAT, the on-line patching program:

```
RUN $ONLPAT
Command File Name? <CR>      (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0401.006 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure.

4. The patch is as follows:

```
Base address? ..CCL.
Offset address? 0
Base   Offset   Old      New?
?????? 000000   ?????? ? UUOBAD
?????? 000002   ?????? ? ^C      (up-arrow/C to exit; CTRL/C for INIT)
```

5. If the above patch was installed using ONLPAT, it will take effect the next time the run-time system is reloaded. If the run-time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC      (BASIC-PLUS run-time system name) 2
```

¹ This patch will disable the execution of the system wide LOGIN.COM file when logging in, if the LOGIN program has been compiled with BASIC-PLUS (.BAC file type).

² The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.

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The BASIC-PLUS Debug Facility

RSTS/E V10.0

BASIC-PLUS

Optional BASIC-PLUS Features

A feature of BASIC-PLUS, the Debug facility, is now available as a supported feature in RSTS/E V10.0.

The Debug commands extend the present BASIC-PLUS immediate-mode debugging commands by allowing you to trace the flow of your program and to set breakpoints. These commands provide a subset of the functions provided by the BASIC-PLUS-2 debugging facility, and are only available as immediate-mode commands. They cannot be used within BASIC-PLUS programs. The commands are used in one of two ways:

- By issuing them between the OLD and RUN of a program and, thereafter, whenever a breakpoint is hit
- By including STOP statements within the program, and then issuing the Debug commands when the first STOP statement is encountered and, thereafter, whenever another STOP statement or breakpoint is hit

Any Debug commands are disabled when:

- A RUN *program-name* command is successfully executed
- A NEW, OLD, or EXIT command is executed
- Any valid CCL command is executed

TRACE/UNTRACE

The TRACE command causes BASIC-PLUS to print the message at line *nnn* (where *nnn* represents a line number) each time that a line number is encountered or the current line number changes.

The UNTRACE command disables any previous invocation of the TRACE command.

BREAK/UNBREAK

The BREAK command allows you to specify that execution should stop any time that a specified line number is encountered. Up to 10 such breakpoints can be set. The BREAK command is of the form:

```
BREAK [ N1, N2, N3 ..., N10 ]
```

where *Nn* represents a line number between 1 and 32767.

When a breakpoint is encountered, BASIC-PLUS prints the message Break at line *nnn* and returns to Ready as though a STOP statement had been executed. At this point you can examine or change the values of variables, execute the DUMP command, or execute any other legal command. Type CONT (continue) to resume execution.

If the **BREAK** command is issued without a line number argument, BASIC-PLUS will **BREAK** each time that a new line is encountered. The **UNBREAK** command is used to disable breakpoints, and is of the form:

UNBREAK [N1, N2, N3, ..., N10]

If no line numbers are specified, all breakpoints are disabled.

Understanding Line Numbers In the Debug Facility

This section discusses the actual implementation of the Debug facility in the BASIC-PLUS run-time system, and should help to explain certain anomalies that you may encounter.

The Debug code is entered whenever an internal construct called a statement header is encountered. Statement headers are generated for the following BASIC-PLUS elements:

- Line numbers
- **DIMENSION** statements
- **DATA** statements
- **FOR** statements
- **NEXT** statements
- **DEF** statements
- **FNEND** statements

When a statement header is encountered, BASIC-PLUS first checks to see if the **BREAK** or **TRACE** feature has been requested. If not, program execution continues.

If **BREAK** or **TRACE** has been requested, BASIC-PLUS now compares the current line number with the previously encountered line number. If they are the same, program execution continues.

If a different line number has been encountered, BASIC-PLUS then checks to see if the statement header represents a function definition (**DEF**) statement. If so, program execution continues.

Because of the internal structure of BASIC-PLUS, it is not possible to **BREAK** at a function definition. As you can see from the algorithm used, any attempt to **BREAK** at a function definition is rejected while the program is being executed, rather than when the **BREAK** command is specified.

If the **BREAK** feature has been requested, BASIC-PLUS compares the current line number with the list of breakpoints that have been requested. If the current line number is included in the breakpoint list, BASIC-PLUS prints Break at line nnn, and returns to keyboard monitor (Ready) state.

If the **TRACE** feature has been requested, BASIC-PLUS prints at line nnn and proceeds with execution of the program.

Enabling the Debug Facility

The Debug facility requires approximately 160 (decimal) additional words in the BASIC-PLUS run-time system. In most cases, this means that one or more of the other optional features (String Arithmetic, Print Using, etc.) must be omitted to prevent the BASIC-PLUS run-time system from exceeding 16K words in size.

To enable Debug, answer Y to the Debug ? question during installation or update of BASIC-PLUS.

Note that enabling Debug also enables the DUMP facility, described in Article 4.11.2 N.

The BASIC-PLUS Dump Facility

RSTS/E V10.0

BASIC-PLUS

Optional BASIC-PLUS Features

A feature of BASIC-PLUS, the Dump facility, is now available as a supported feature in RSTS/E V10.0.

The DUMP command provides an extension to the present BASIC-PLUS immediate mode debugging commands by allowing you to take a snap-shot dump of your current job. After dumping your program, you can use the BPDA (BASIC-PLUS Dump Analyzer) program to display the contents of all variables used by the program. In addition, you can continue executing your program after issuing the DUMP command; this allows you to inspect the state of the program at several stages of execution.

The DUMP command is only available as an immediate-mode command (that is, it cannot be used in a BASIC-PLUS program), and has the syntax:

DUMP file-specification

If no device name is specified, the public disk structure (SY:) is used. If no filename is specified, the current program name is used. If no file type is specified, .PMD is used.

The BASIC-PLUS Dump Analysis Program

After the DUMP command has been issued, you can use the BPDA program to print the contents of each variable that is used in the program, as well as the contents of the buffer of any open files.

The BPDA program asks for an input file name. The default file type is .PMD. There is no default for the file name. Wildcards are illegal.

When BPDA asks for the output file name, responding with <CR> will direct the output to your terminal. If no filename is specified, the input filename is used with the default file type .PDA.

You may also respond to the Input file? query with a command of the form:

outfile = infile

Security Notes

Access to the Dump facility should be carefully controlled, as it may be used by unscrupulous users to obtain confidential information, such as student grades or payroll information. The following two mechanisms help protect against this:

- Non-privileged users are normally prevented from using the DUMP command on programs that are running from compiled files. This capability may be removed if desired (see article Seq 4.11.3 F).

- Whether or not non-privileged users are allowed to use the DUMP command on programs that are executed from compiled files, they still may not use the DUMP command on a program that uses temporary privileges, since the BASIC-PLUS run-time system clears the program from memory before a non-privileged user returns to keyboard monitor state.

Some installations may find it desirable to generate two versions of the BASIC-PLUS run-time system, one which includes the Debug and Dump facilities, which would be used for development, and another which does not include either facility, which would be used for production. This would prevent the potential problems described above, while providing the Dump facility for development work.

Enabling the Dump Facility

The Dump facility is enabled automatically when the Debug facility is selected during an installation or update of BASIC-PLUS. See Article 4.11.1 N for a description of the Debug facility.

Enabling Dump from Compiled Files for Non-Privileged Users — BASIC-PLUS Feature Patch

RSTS/E V10.0

BASIC-PLUS

Optional BASIC-PLUS Features

Normally, if the Dump facility is enabled (see article Seq 4.11.2 N), BASIC-PLUS will not allow some users to dump programs that are executing from compiled files, even though they may dump programs that are executing from source files. This protection prevents users from dumping programs which may contain confidential information in their variable strings or file buffers. In order to use the DUMP command, the user must have WACNT, WWRITE, SYSIO and RDMEM privileges.

Some installations, however, may want to allow all users to dump all BASIC-PLUS programs to which they have RUN access, regardless of whether the program is compiled.

The following patching procedure will cause BASIC-PLUS to allow all users to dump programs that they are executing. (Note that a program whose protection code includes the 128. bit for temporary privileges is always cleared from a non-privileged user's job space before returning the keyboard monitor (Ready) state. Hence, a nonprivileged user can never dump such a program.)

Procedure

1. This is a feature patch to the BASIC-PLUS run-time system. It may be installed in any BASIC-PLUS run-time system.
2. The patch described in Step 4 can be installed using the PATCH option of INIT.SYS:

```
Option: PATCH
File to patch? BASIC.RTS      (BASIC-PLUS run-time system name)
```

3. This patch can be installed manually using ONLPAT, the on-line patching program:

```
RUN $ONLPAT
Command File Name? <CR>      (RETURN for manual installation)
File to patch? [0,1]BASIC.RTS (BASIC-PLUS run-time system name)
File found in account [0,1]
```

This feature patch is contained in the file PA0411.003 as part of the UPDATE package. To transfer this file to the UPDATE\$ account, select the package name UPDATE during the system installation or update procedure.

4. The patch is as follows:

```
Base address? ..NPD.
Offset address? 0
Base   Offset   Old      New?
?????? 000000   004767 ? NOP
?????? 000002   ?????? ? NOP
?????? 000004   005046 ? ^C      (up-arrow/C to exit; CTRL/C for INIT)
```

5. If the above patch was installed using ONLPAT, it will take effect the next time the run-time system is reloaded. If the run-time system has been INSTALLED, execute the following commands:

```
$ UNLOAD/RUNTIME_SYSTEM BASIC      (BASIC-PLUS run-time system name) 1
```

¹ The UNLOAD command will not remove the run-time system, but simply instructs the monitor to reload it the next time a job requests it.

PIP Sometimes Loops When Copying Files Into Themselves — PIP.SAV Restriction

RSTS/E V10.0

System Library (\$)

Library Restrictions

When using PIP to copy files into themselves (that is, when the target files are the same as the source files) on a system disk initialized as New Files Last (NFL) and you specify that disk's device name differently on the input and output side of the command line, PIP will continue copying files in an endless loop; it will not properly detect the last file in the directory. Under such circumstances, you must type Ctrl/C to terminate the operation.

For example, if your system disk is _DU1: and you issue the following command, PIP will loop endlessly copying files:

```
$ PIP _SY:[1,2]=_DU1:[1,2]*.*/LOG
```

To prevent this, do not specify a device name for the system disk, or specify identical device names on both the input and output side of the PIP command line, for example:

```
$ PIP [1,2]=_DU1:[1,2]*.*/LOG
$ PIP _DU1:[1,2]=_DU1:[1,2]*.*/LOG
$ PIP _SY:[1,2]=_SY:[1,2]*.*/LOG
```


ODT Displays Large Addresses Incorrectly — ODT.TSK Restriction

RSTS/E V10.0

Auxiliary Library (AUXLIB\$)

Package Restrictions

ODT.TSK will not display addresses greater than 177777(8) correctly. It accesses the correct location and displays the *contents* of the address correctly. It is only the display of the address itself that is incorrect.

ANALYS Incorrectly Shows Virtual Disk As Locked Out — ANALYS Restriction

RSTS/E V10.0

Error Logging Package (ERROR\$)

Package Restrictions

In the monitor dump section of the ANALYS report, the virtual disk area of the Memory Layout is incorrectly shown as locked out.

Notes on the Use of Serial Printers

RSTS/E V10.0

Operator Services and Spooling Package (OPSER\$)

Package Notes

See Article 15.1.1 for information about using serial printers. Although it is a Print/Batch Services (PBS) article, it is applicable to OPSER as well.

Notes on the Use of Serial Printers

RSTS/E V10.0

Print / Batch Services Package (PBS\$)

Package Notes

During a power down and power up sequence, some serial terminals may send spurious characters to the host processor. The ASCII code of these characters appears to be random, but they occasionally take on the value of control characters (for example, Ctrl/C). Since the program printing on the terminal may not expect input of any kind from the terminal, these spurious characters may result in unexpected errors; for example, a Ctrl/C may cause the program to exit, and a Ctrl/O will cause all further output to be discarded without printing.

There is no way for the software to protect against all possible spurious inputs. RSTS/E is able to protect against all spurious input except Ctrl/S (XON) and Ctrl/Q (XOFF) via the MODE 32% option on the OPEN statement. However, spurious XON/XOFF characters can still cause loss of synchronization between the host system and the terminal. The only way to prevent this problem is to ensure that any serial terminal used as a printer is never powered off or powered on while it is ALLOCATED or OPENed.

Another problem concerns loss of data when the printer is powered off. Most serial printers contain an internal buffer which is used to hold characters which have been received from the host processor but which have not yet been printed. When the printer goes OFFLINE (either because the ONLINE/OFFLINE switch is placed in the OFFLINE position, or because some exception condition, such as a paper jam, has been detected) this buffer may still contain some unprinted data. If the printer is placed back ONLINE, printing will resume with no loss of data. If, however, the terminal is turned off, the buffer is cleared and any data in the buffer is lost. The only protection against this loss is to ensure that the printer is not powered off while it is printing.

In summary, DIGITAL recommends that any serial printer to be used under RSTS/E time-sharing be powered on before system start-up and that it remain on whenever it is in use. If the terminal is powered off, loss of data and unexpected errors may result.

Another kind of problem has been encountered when spooling to the LA180S serial printer. This problem concerns the manner in which the terminal device handles printed lines that are longer than the width of the terminal. When a line is printed on the LA180S, the device prints characters until it gets to the physical right margin. At that point, the logic of the terminal inhibits further printing until a carriage return character moves the print head back from the margin. When a CR is encountered in such a situation, the LA180S also generates a line-feed, causing spacing to a new line. Since most print lines are terminated by a CR/LF sequence, however, the second LF will, again, cause spacing to a new line, leaving one line blank. Thus, printing a line which is longer than the width of the LA180S (for example, longer than 132 characters) will cause a blank line on the printed output.

When performing normal print operations under RSTS/E, the user will not ordinarily encounter this problem. The RSTS/E Terminal Service ordinarily keeps track of the characters printed on the terminal and explicitly issues a CR/LF sequence to the terminal when the print head reaches the right margin (as defined by the /WIDTH qualifier in a SET TERMINAL command). Thus, lines printed to that terminal which are longer than the width of

the terminal result in printing of all characters, but on multiple lines. The only programs which will have trouble are those which need to keep track of vertical position on the page (for example, the line printer spooler) and, therefore, invoke the special MODE (Mode 4%) to inhibit the automatic CR/LF by terminal service. Files printed by such programs will have blank lines after each line which was longer than the terminal width. There is no practical software remedy for this problem.

RMS-11 Does Not Correctly Handle Underscores — RMS Restriction

RSTS/E V10.0

RMS-11 V2.0 (RMS\$)

Package Restrictions

RMS-11 Access Methods does not correctly handle a file specification which contains an underscore in front of the device name. RMS-11 ignores the underscore.

RMS-11 May Incorrectly Report Error on Remote Access of Indexed File — RMS Restriction

RSTS/E V10.0

RMS-11 V2.0 (RMS\$)

Package Restrictions

Keyed access on a remote indexed file will incorrectly report a Record Not Found error when the target record's key size is described as zero on a key whose datatype is non-string. This is documented as a correct way to pass a nonstring key, but currently works correctly only for local operations.

Attributes Are Lost When RMS File Is Copied to DOS Format Tape

RSTS/E V10.0

DCL Run-time System and Utilities

Package Notes

Because the DOS magnetic tape format does not provide a way to store RMS attribute information, RMS files that are copied to DOS magtape will lose their attributes and may be rendered unusable. The COPY command will not issue a warning when this happens.

To store RMS files on magnetic tape, use one of the following methods, all of which will retain RMS attributes:

- Use ANSI format instead of DOS
- Use the BACKUP utility
- Use RMSBCK, the RMS-11 backup utility

Exclamation Marks in BROADCAST Commands

RSTS/E V10.0

DCL Run-time System and Utilities

Package Notes

Exclamation marks in continuation lines cannot be used with the BROADCAST command.

1. The first part of the document is a list of the names of the members of the committee.

2. The second part of the document is a list of the names of the members of the committee.

3. The third part of the document is a list of the names of the members of the committee.

MOUNT Command With /OVERRIDE Qualifier — DCL Restriction

RSTS/E V10.0
DCL Run-time System and Utilities
Package Restrictions

When issuing a MOUNT command with the /OVERRIDE qualifier and without a pack label, the logical name, if specified, must not have a colon (:) appended.

Use a command of the following format:

```
MOUNT DU1:/OVERRIDE/PRIVATE MYDISK
```

Do not use:

```
MOUNT DU1:/OVERRIDE/PRIVATE MYDISK:
```


Using the RSX-11 CRF Utility

RSTS/E V10.0

RSX-11 Emulator and Utilities

Package Notes

The RSX-11 utility CRF.TSK is included on the RSTS distribution kit as an unsupported utility. It is installed in the system library ([1,2]) account with other components in the RSX-11 package.

This program will create cross-reference listings from the binary cross reference (.CRF) files optionally produced by the RSX-11 task builder (TKB) and RSX-11 MACRO assembler (MAC). The cross reference file created by MAC lists page and line number references to data items and routines, whereas the cross reference file created by TKB lists the names of the object modules which reference these items. The following are examples of these two types of output:

MACRO Assembler output:

```

CRF          CREATED BY MACRO  ON 15-JUN-85 AT 06:02      PAGE 1
SYMBOL CROSS REFERENCE                                CREF  07.065
SYMBOL  VALUE      REFERENCES
CR      = 000015    #4-180
FF      = 000014    #4-180
HT      = 000011    #4-180
LF      = 000012    #4-180
L$$IST  = *****  1-1      1-2      2-53      4-182
RSTS    = 000001    #4-39
R$$11M  = 000000    #4-38
SPA     = 000040    #4-180
VT      = 000013    #4-180
V1145   = *****  4-157
$$SVER  = 034066    #3-2      #5-1

```

Task Builder output:

```

CRF          CREATED BY TKB    ON 15-JUN-85 AT 06:23      PAGE 1
GLOBAL CROSS REFERENCE                                CREF  07.065
SYMBOL  VALUE      REFERENCES...
A.BTTN  000002    # DIRSYM
A.DFUI  000102    CRFIN  # FCSGBL
A.LULU  000002    # DIRSYM
A.LUNA  000004    # DIRSYM
A.LUNU  000006    # DIRSYM
A.TRBA  000002    # DIRSYM
BADDIR  000001    # ERR      FIP
BADNAM  000002    # ERR      FIP

```

The first step is to cause MAC or TKB to create a binary cross-reference file, which is used by the CRF utility to produce the cross-reference listing. To request that MAC or TKB produce this file, specify the /CR switch in the command line to these programs. For MAC the switch is included with the listing file specification and for TKB it is included with the map file specification. For example:

```

$ RUN $MAC
MAC>TEST,TEST/CR=TEST
MAC>^Z
$

```


The binary file created has the same name as the listing or map file and its file type is always .CRF.

CRF.TSK is then run, using either the RUN command or the CRF CCL if installed. When run using the RUN command, CRF will prompt with CRF>. Typing Ctrl/Z to this prompt will cause an exit to your default RTS. The command line is a single RSTS/E file specification of the file into which the cross reference listing is to be placed. The default file type for this file is .LST. If the file specified already exists, CRF appends the listing to it; otherwise, a new file is created. The CRF output is variable length records and, therefore, if the file specified for output already exists, it must also be a variable length file. The listing file produced by MAC and the map file created by TKB are both variable length files making them prime candidates. For example:

```
$ RUN $CRF
CRF>TEST.LST
CRF>^Z
$
```

This will cause the cross-reference listing to be appended to the TEST.LST listing file which was originally created by MAC. CRF can also append the cross-reference listing to the MAP file generated by TKB. For example:

```
$ RUN $CRF
CRF>TEST.MAP
CRF>^Z
$
```

In either case, the binary cross-reference file TEST.CRF, which was created by MAC or TKB, will be deleted automatically by CRF.

CRF requires the binary cross-reference file to have the same name as the output file with a file type of .CRF. Since CRF always deletes this file when it is done, you must copy this file into a non-.CRF file before running CRF if you wish to keep a copy of it.

CRF also accepts as input an indirect command file (preceded by @) which can contain a list of file specifications. Each specification in the file will be processed as if it was separately entered to the CRF> prompt. The default file type for the command file is .CMD. CRF only allows one level of command indirection.

RSX-11 Utilities Do Not Handle All RSTS/E File Specifications — RSX-11 Package Restriction

RSTS/E V10.0

RSX-11 Emulator and Utilities

Package Restrictions

Several RSX-11 utilities do not properly handle all RSTS/E file specifications. Table 1 lists those RSX-11 tasks which do not handle various parts of a RSTS/E Filespec.

Table 1: RSX-11 Utilities — RSTS/E Filespec Restrictions

Utility	Allow Logical Name Longer than six Characters?	Allow Logical Name Containing Dollar (\$) Sign?	Allow Omitted Fields in PPN?
TKB	Yes	Yes	No
MAC	Yes	Yes	No
PAT	No	No	Yes
LBR	No	Yes	No

Use of Underscore in RT-11 Utilities

RSTS/E V10.0

RT-11 Emulator and Utilities

Package Notes

RSTS/E allows the use of the underscore (_) character before a device name in a file specification to indicate that the device name is not to undergo logical translation. Utilities provided with the RT-11 emulator will allow the use of the underscore character; however, due to the nature of the emulator, it is still possible for the device name to undergo translation before a file is opened.

In the RT-11 emulator, file specifications given to a utility are scanned using the RT-11 CSI (command string interpreter). At this time, the device designation may or may not undergo logical translation (depending on whether or not the underscore was used). The CSI returns RT-11 file description blocks to the utilities.

When the utility program then requests the emulator to open a file, the file open code does an additional logical translation on the specified device name. This is an unavoidable consequence of allowing logical device names to be specified in RT-11 file description blocks.

Disk Unit Numbers Greater Than Nine May Not Be Displayed Correctly — RT-11 Package Restriction

RSTS/E V10.0
RT-11 Emulator and Utilities
Package Restrictions

The following utilities will not correctly print the disk name and unit number in error messages for DU disks with unit numbers greater than nine:

- LINK.SAV
- LIBR.SAV
- MACRO.SAV

For example, if the source file TEST01 does not exist on disk DU15, you will get this error message:

```
$ RUN $MACRO
*DU15:TEST01=DU15:TEST01
?MACRO-F-File not found DVE:TEST01.MAC
DU15:TEST01=DU15:TEST01
```


SET EXECUTOR SEGMENT BUFFER SIZE May Fail Without Warning — NCP.TSK Restriction

RSTS/E V10.0

DECnet/E Utilities V4.1 (DECNET\$)

Package Restrictions

The NCP Command SET EXECUTOR SEGMENT BUFFER SIZE *n* does not work when the EXECUTOR STATE is ON. The command should fail with an appropriate error but instead appears to succeed without taking any action.

SHOW NODE Command May Fail — NCP.TSK Restriction

RSTS/E V10.0

DECnet/E Utilities V4.1 (DECNET\$)

Package Restrictions

When attempting to issue a command such as:

```
SHOW NODE node_address COUNTERS
```

and the node *node_address* is not defined in your volatile database, NCP will report that the node does not exist, even though you may have an active link to it.

The workaround is to ensure that all the nodes you normally access are defined in your volatile parameter file.

Network Parameter File Will Not Hold More Than 26,000 Nodes — DECnet/E Package Restriction

RSTS/E V10.0

DECnet/E Utilities V4.1 (DECNET\$)

Package Restrictions

DECnet/E will not successfully create a network parameter file for networks with more than 26,000 nodes. To successfully create the node database NETPRM.SYS, you must specify a Maximum Nodes value smaller than 26,000.

1. The first part of the document is a letter from the President of the United States to the Congress, dated January 1, 1863.

2. The second part is a report from the Secretary of the Treasury, dated January 1, 1863.

3. The third part is a report from the Secretary of the Interior, dated January 1, 1863.

4. The fourth part is a report from the Secretary of the Navy, dated January 1, 1863.

5. The fifth part is a report from the Secretary of the War, dated January 1, 1863.

6. The sixth part is a report from the Secretary of the State, dated January 1, 1863.

7. The seventh part is a report from the Secretary of the Army, dated January 1, 1863.

8. The eighth part is a report from the Secretary of the Navy, dated January 1, 1863.

9. The ninth part is a report from the Secretary of the War, dated January 1, 1863.

10. The tenth part is a report from the Secretary of the State, dated January 1, 1863.

11. The eleventh part is a report from the Secretary of the Army, dated January 1, 1863.

12. The twelfth part is a report from the Secretary of the Navy, dated January 1, 1863.

SET HOST May Give Erroneous Error Message — NETUNS.TSK Restriction

RSTS/E V10.0

DECnet/E Utilities V4.1 (DECNET\$)

Package Restrictions

When you SET HOST from RSTS/E to some versions of VMS and log off the VMS system, DECnet/E may display the following message:

```
%Logical link failure to remote node xxxxxx  
NSP reason code = 0  
Control returned to node xxxxxx
```

This error message is triggered by the receipt of an unexpected message from the VMS node during the disconnect. The error message is extraneous; no actual error has occurred and the user session is not otherwise affected.

Similarly, when you SET HOST to RSTS/E from some versions of VMS, the same error may be displayed. In such cases, the remote job on the RSTS/E system is left detached.

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Network File Transfers May Not Correctly Preserve Protection Codes — NFT.TSK/FAL.TSK Restriction

RSTS/E V10.0

DECnet/E Utilities V4.1 (DECNET\$)

Package Restrictions

NFT (the Network File Transfer program) and FAL (the File Access Listener) do not always preserve protection codes when creating files. Protection codes for the output files are computed by adding together the default system protection code and the codes for executable (64), protected (128), or executable and privileged (64+128) as set on the input file.

RSTS/E V10.0 Cumulative Index

This section is an index of all articles included in the original *RSTS/E Maintenance Notebook*. This index will be updated monthly as new articles are published in the *RSTS/E Software Dispatch*. Missing sequence numbers may pertain to problems unique to other versions of the same product or other major operating systems.

Unassigned articles are indicated: RESERVED.

Flags are currently being installed for all articles. The flags and definitions are as follows.

- *M = Mandatory Patch*. These patches correct errors in the software product. All users are required to apply these patches to maintain consistent user level unless the accompanying article specifies otherwise.
- *F = Optional Feature Patch*. These patches extend or configure functionality into the product. These functions will be treated as a supported part of the product for the duration of the current release and may be incorporated in a future release.
- *R = Restriction*. These articles discuss areas that will not be patched in the current release because they require major modification or because they are not consistent with the design of the product. Restrictions, except those described as permanent, are reviewed and modified when possible as part of the normal release cycle.
- *N = Note*. These articles provide explanatory information that supplements the manual set and provide more detailed information about a program or package. They also provide procedural information to make it easier to use a program or package.
- *- = Article is being republished*.

Sequence	Title	Released	Corrected	Mon/Yr
General Notes				
System Notes				
0.1.1 N	RSTS/E V10.0 Component Summary	V10.0	N/A	Aug 90
Initialization				
INIT.SYS Notes				
1.2.1 N	Unnecessary Error Message When Booting 800 BPI Tape on TM02	V10.0	N/A	Aug 90
INIT.SYS Restrictions				
1.3.1 R	First TMSCP Drive on System Must Be Unit 0	V10.0	N/A	Aug 90
1.3.2 R	MT/MM Tapes Must Be Booted From Unit 0	V10.0	N/A	Aug 90
System Installation and Update				
Installation/Update Notes				
2.1.1 N	Installation Flag Files	V10.0	N/A	Aug 90

RSTS/E V10.0 Cumulative Index

Sequence	Title	Released	Corrected	Mon/Yr
Executive				
<i>Monitor Restrictions</i>				
3.3.1 R	DCL Log File Corruption on Full Disk	V10.0	N/A	Aug 90
<i>Terminal Service Patches</i>				
3.4.1 F	Changing Special Login Terminal	V10.0	N/A	Aug 90
3.4.2 F	Input Escape Sequence Handling	V10.0	N/A	Aug 90
<i>Terminal Service Notes</i>				
3.5.1 N	Modem Support on RSTS/E	V10.0	N/A	Aug 90
3.5.2 N	Unexpected Abort from Captive Command File Will Not Hang Up Dialup Line	V10.0	N/A	Aug 90
<i>Device Driver Restrictions</i>				
3.12.1 R	DB/DR Driver May Log Errors for Wrong Unit	V10.0	N/A	Aug 90
3.12.2 R	Swapping MSCP/TMSCP Unit Numbers May Cause Crash	V10.0	N/A	Aug 90
BASIC-PLUS				
<i>BASIC-PLUS Patches</i>				
4.1.1 F	Special PRINT-USING Characters	V10.0	N/A	Aug 90
4.1.2 F	Default SCALE Factor	V10.0	N/A	Aug 90
4.1.3 F	Omitting SCALE Factor Warning Message	V10.0	N/A	Aug 90
4.1.4 F	Default to NOEXTEND Mode	V10.0	N/A	Aug 90
4.1.5 F	Immediate Mode from .BAS File	V10.0	N/A	Aug 90
4.1.6 F	Disabling the CCL SYS Call	V10.0	N/A	Aug 90
<i>Optional BASIC-PLUS Features</i>				
4.11.1 N	The BASIC-PLUS DEBUG Facility	V10.0	N/A	Aug 90
4.11.2 N	The BASIC-PLUS DUMP Facility	V10.0	N/A	Aug 90
4.11.3 F	Enabling DUMP from Compiled Files for Non-privileged Users	V10.0	N/A	Aug 90

Sequence	Title	Released	Corrected	Mon/Yr
RSTS/E Utilities				
System Library (\$)				
<i>Library Restrictions</i>				
10.2.1 R	PIP Sometimes Loops When Copying Files Into Themselves	V10.0	N/A	Aug 90
Auxiliary Library (AUXLIB\$)				
<i>Library Restrictions</i>				
11.2.1 R	ODT Displays Large Addresses Incorrectly	V10.0	N/A	Aug 90
Error Logging Package (ERROR\$)				
<i>Package Restrictions</i>				
12.2.1 R	ANALYS Incorrectly Shows Virtual Disk as Locked Out	V10.0	N/A	Aug 90
Operator Services and Spooling Package (OPSER\$)				
<i>Package Notes</i>				
14.1.1 N	Notes on the Use of Serial Printers	V10.0	N/A	Aug 90
Print/Batch Services Package (PBS\$)				
<i>Package Notes</i>				
15.1.1 N	Notes on the Use of Serial Printers	V10.0	N/A	Aug 90
RMS-11 V2.0 (RMS\$)				
<i>Package Restrictions</i>				
22.2.1 R	RMS-11 Does Not Correctly Handle Underscores	V10.0	N/A	Aug 90
22.2.2 R	RMS-11 May Incorrectly Report Error on Remote Access of Indexed File	V10.0	N/A	Aug 90

RSTS/E V10.0 Cumulative Index

Sequence	Title	Released	Corrected	Mon/Yr
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DCL Run-time System and Utilities				
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27.1.1 N	Attributes Are Lost When RMS File Is Copied to DOS Format Tape	V10.0	N/A	Aug 90
27.1.2 N	Exclamation Marks in BROADCAST Commands	V10.0	N/A	Aug 90
<i>Package Restrictions</i>				
27.2.1 R	MOUNT Command with /OVERRIDE Qualifier	V10.0	N/A	Aug 90
RSX-11 Emulator and Utilities				
<i>Package Notes</i>				
28.1.1 N	Using the RSX-11 CRF Utility	V10.0	N/A	Aug 90
<i>Package Restrictions</i>				
28.2.1 R	RSX-11 Utilities Do Not Handle All RSTS/E File Specifications	V10.0	N/A	Aug 90
RT-11 Emulator and Utilities				
<i>Package Notes</i>				
29.1.1 N	Use of Underscore in RT-11 Utilities	V10.0	N/A	Aug 90
<i>Package Restrictions</i>				
29.2.1 R	Disk Unit Numbers Greater Than Nine May Not Be Displayed Correctly	V10.0	N/A	Aug 90
Optional Software				
DECnet/E Utilities V4.1 (DECNET\$)				
<i>Package Restrictions</i>				
31.2.1 R	SET EXECUTOR SEGMENT BUFFER SIZE May Fail Without Warning	V10.0	N/A	Aug 90
31.2.2 R	SHOW NODE Command May Fail	V10.0	N/A	Aug 90
31.2.3 R	Network Parameter File Will Not Hold More Than 26,000 Nodes	V10.0	N/A	Aug 90
31.2.4 R	SET HOST May Give Erroneous Error Message	V10.0	N/A	Aug 90
31.2.5 R	Network File Transfers May Not Correctly Preserve Protection Codes	V10.0	N/A	Aug 90

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